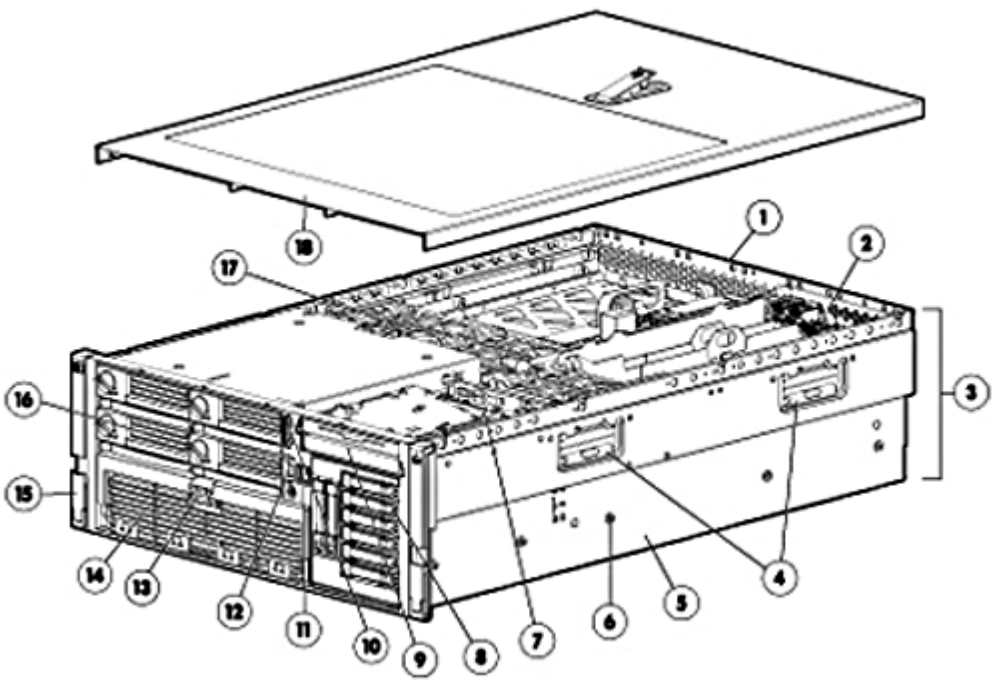
Overview



1. Dual Hot Plug Redundant Power Supplies (one standard with 1P Models, requires optional RPS for redundancy)
2. Up to Six Available I/O Slots: 3 Standard PCI-Express x4 and 1 Standard 64-bit/133MHz PCI-X. Optional Mezzanine adds Two Hot Plug 64-bit/133MHz PCI-X or two X4 PCI Express, or one X8 PCI Express
3. 4U (7" Height) Rack Form Factor
4. Server Lifting Handles
5. Ships with Smart Array P400 Controller with 256MB Cache. Optional 512MB Battery Backed Write Cache (BBWC ships standard with 2P models)
6. Universal Tool-less "Snap In" Sliding Rail Solution
7. Systems Insight Display
8. Support for up to 8 Small Form-Factor (SFF) SAS or Serial ATA (SATA) drives
9. Support for up to Two Slimline Drives (Ejectable, DVD/CD-RW Drive standard, Floppy Drive optional with all models)
10. One front video port.
11. Two front accessible USB 2.0 ports. Two rear accessible USB 2.0 ports (all bootable).
12. Front Panel LED Display (internal and external health, Two Network Port Status, Unit ID light) and Power Button
13. Front accessible Processor drawer (allows access to Processors and Processor Power Modules)
14. Support for up to four Dual-core 64-bit Intel® Xeon™ Processors
15. Quick release levers for fast server access
16. Front accessible Hot Plug RAID Memory
17. Six Hot Plug Redundant Fans Standard on all models
18. Quick Removal Access Panel

At A Glance

The ProLiant DL580 G4 server is an enterprise class, 4 socket server designed for maximum scalability and high availability. Its innovative chassis offers unsurpassed flexibility and serviceability in a versatile, rack-optimized form factor.
Based upon the latest industry standard processing, memory, I/O and networking technologies, the ProLiant DL580 G4 provides the highest levels of performance demanded by today's compute intensive applications. Unparalleled high availability features, including front-accessible Hot Plug RAID Memory, and hot-plug redundant components, guarantee maximum uptime. Integrated Lights-Out 2 (iLO2) technology allows remote administration from a standard web-browser without ever having to visit the server. Within the 4U dense form factor, it's highly expandable architecture provides maximum application deployment flexibility with the ability to add PCI-Express, hot plug PCI-X or battery-backed write cache options. Innovative features, such as the ability to access processors, memory,

Overview

hard drives, and power supplies while the unit remains secured in the rack, enable rapid response to service events, radically decreasing overall IT costs and server downtime.

- Processors:
  - Supports up to four Dual-core 64-bit Intel® Xeon™ processors and HT Technology
    - Dual-core 64-bit Intel® Xeon™ Processor 7041 (3.00GHz, 2x2MB L2 Cache, 800MHz FSB)
    - Dual-core 64-bit Intel® Xeon™ Processor 7030 (2.80GHz, 2x1MB L2 Cache, 800MHz FSB)
  - Dual Independent 800MHz Front Side Bus (FSB)
  - Industry Standard Intel E8501 Chipset
- Memory:
  - Front accessible Hot Plug RAID Memory (Configurable for Standard, Mirrored or RAID) provides maximum up-time, flexibility and serviceability
  - PC2-3200 Registered Memory (DDR2-400) can be configured in Hot Plug Mirrored, Hot Plug RAID, Online Spare or Advanced ECC modes
- Storage Controller:
  - Smart Array P400 Controller (SAS) with 256MB cache and optional 512MB battery backed write cache (standard on high performance models)
- Internal Drive Support:
  - Support for up to eight hot-plug SFF SAS drives
  - Slimline DVD Combo Drive standard, Floppy Drive optional on all models (ejectable)
- Network Controller:
  - Embedded Dual NC371i Multifunction Gigabit Network Adapters with TCP/IP Offload Engine, including support for Accelerated iSCSI through an optional ProLiant Essentials Licensing Kit
- Expansion Slots:
  - More PCI-Express slots with up to five available PCI-Express x4 slots with mezzanine option
  - Up to Six Available I/O Slots: 3 Standard PCI-Express x4 and 1 Standard 64-bit/133MHz PCI-X Optional Mezzanine adds Two Hot Plug 64-bit/133MHz PCI-X, Two X4 PCI Express, or One X8 PCI Express
  - Optional x4-x8 PCI-Express Bus Expander provides flexibility to configure I/O slots for different requirements, specifically by converting a x4 slot to a x8 for greater bandwidth/performance
- USB 2.0 Ports:
  - 4 Total: (2) front, (2) rear accessible ports (configurable for boot capability)
- Redundancy:
  - Rear accessible Hot Plug Redundant Power Supplies (RPS optional on some models)
  - Hot Plug Fans with full redundancy
- Management:
  - New Integrated Lights-Out 2 featuring Integrated Remote Console with KVM over IP performance over shared network access
  - Power Regulator for ProLiant, delivering server level, policy based power management with industry leading energy efficiency and savings on system power and cooling costs
  - Automatic Server Recovery (ASR), ROM Based Setup Utility (RBSU), HP Systems Insight Manager, Status LED's including system health and UID, and SmartStart
- Form Factor:
- Deployment/Serviceability:
  - Front video port
  - Front accessible Processor and Processor Power Modules allow server to stay safely secured in the rack during servicing
  - Quick Deploy Rail System includes sliding universal rails, an ambidextrous cable management arm and quick release levers for fast and easy serviceability and in-rack tool-less access to major components
  - Tool-less access to all system components for easy in rack serviceability
- Warranty:
  - Protected by HP Services and a worldwide network of resellers and service providers. Three-year Next Business Day, on-site limited global warranty. Certain restrictions and exclusions apply. Pre-Failure Notification on processors, memory, and SCSI hard drives. SATA hard drives have a one-year warranty.

Standard Features

Processor One or more of the following depending on Model	Dual-core 64-bit Intel Xeon 7041 Processor (3.00 GHz, 800MHz FSB) Dual-core 64-bit Intel Xeon 7030 Processor (2.80 GHz, 800MHz FSB)
Cache Memory One of the following depending on Model	2x2MB Integrated Level 2 cache NOTE: Dual-core 3.00 GHz Models only. 2x1MB Integrated Level 2 cache NOTE: Dual-core 2.80 GHz Models only.
Upgradeability	Upgradeable to quad processing
Chipset	Industry Standard Intel E8501 Chipset NOTE: For more information regarding Intel chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/
Memory Protection	Advanced ECC Hot-Plug RAID Memory Hot-Plug Mirrored Memory Online Spare Memory
Memory One of the following depending on Model	Type: PC2-3200 Registered Memory (DDR2-400) Standard: 2 GB (2 x 1 GB) Standard (2P base models): 4 GB (4 x 1 GB) Maximum: 64 GB NOTE: 64 GB achieved with use of four memory cartridges and sixteen 4 GB PC2-3200 Memory Modules. The HP ProLiant DL580 G4 will accept both single rank and dual rank DIMMs in all sockets.
Network Controller	Embedded Dual NC371i Multifunction Gigabit Network Adapters with TCP/IP Offload Engine, including support for Accelerated iSCSI through an optional ProLiant Essentials Licensing Kit

Standard Features

Expansion Slots with No Mezzanine Option	Bus speed	Bus number	Hot Plug	PCI Voltage	Notes
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	64-bit / 133 MHz PCI-X	10	No	3.3 Volt	Standard
4	PCI Express X4	13	No		Recommended for SA-P400
5	PCI Express X4	16	No		Standard
6	PCI Express X4	19	No		Standard
7	PCI Express X4	22	No		Standard
Expansion Slots with PCI-X Mezzanine Option	**Bus speed**	**Bus number**	**Hot Plug**	**PCI Voltage**	**Notes**
1	64-bit / 133 MHz PCI-X	3	Yes	3.3 Volt	Optional
2	64-bit / 133 MHz PCI-X	6	Yes	3.3 Volt	Optional
3	64-bit / 133 MHz PCI-X	11	No	3.3 Volt	Standard
4	PCI Express X4	14	No		Recommended for SA-P400
5	PCI Express X4	17	No		Standard
6	PCI Express X4	20	No		Standard
7	PCI Express X4	23	No		Standard
Expansion Slots with PCI Express X4 Mezzanine Option	**Bus speed**	**Bus number**	**Hot Plug**	**PCI Voltage**	**Notes**
1	PCI Express X4	2	No		Optional
2	PCI Express X4	5	No		Optional
3	64-bit / 133 MHz PCI-X	10	No	3.3 Volt	Standard
4	PCI Express X4	13	No		Recommended for SA-P400
5	PCI Express X4	16	No		Standard
6	PCI Express X4	19	No		Standard
7	PCI Express X4	22	No		Standard

Standard Features

Expansion Slots with PCI Express X8 Mezzanine Option	Bus speed	Bus number	Hot Plug	PCI Voltage	Notes
1	PCI Express X8	2	No		Optional
2	N/A	N/A	N/A	N/A	N/A
3	64-bit / 133 MHz PCI-X	10	No	3.3 Volt	Standard
4	PCI Express X4	13	No		Recommended for SA-P400
5	PCI Express X4	16	No		Standard
6	PCI Express X4	19	No		Standard
7	PCI Express X4	22	No		Standard

Bus Expansion

The x4-x8 PCI Express Bus Expander is a half-length expansion board. When installed into an x4 PCI Express expansion slot, the x4-x8 PCI Express bus expander converts the adjacent x4 PCI Express expansion slot into a x8 PCI Express expansion slot.

The HP ProLiant DL580 G4 Server can support up to two x4-x8 PCI Express bus expander boards. The bus expander can only be installed in expansion slots 5 and 7 to convert the adjacent lower-numbered expansion slot to a PCI Express x8 expansion slot. For example, installing the board into expansion slot 5 converts expansion slot 4 to a PCI Express x8 expansion slot.

Manageability

Integrated Lights-Out (iLO) Management 2 (integrated on motherboard)

- Virtual KVM (text mode)
- Virtual Power Button Control
- Integrated Remote Console
- Remote Serial Console
- Dedicated & full function shared network Connectivity
- Browser, command line and scripted access
- Automatic IP Configuration via DHCP/DNS/WINS
- Industry Standard 128-bit Secure Sockets Layer (SSL) and Secure Shell security (SSH)
- OS independent hardware health status
- IML and iLO Event Logging
- Support for 12 user accounts with customizable access privilege

Storage Controllers
One of the following depending on Model

HP Smart Array P400 Controller with 256MB cache (in a PCI-Express slot)

HP Smart Array P400 Controller with 512MB and BBWC
NOTE: Standard on High Performance 2P Models.

Standard Features

Storage Data Protection

The Battery-Backed Write Cache (BBWC) Enabler for the Smart Array P400 Controller protects up to 512-MB write cache memory from hard boot, power, controller, or system board failures.

- Standard on 2P Models, optional with others
- Battery charge/life: Up to 72 hours/3 years
- Transportable data protection
- Increases overall controller performance

NOTE: Safely transport your write cache data to another HP ProLiant DL580 G4 in the data center by removing the BBWC Enabler and Smart Array P400 Controller Memory Module simultaneously (connected by short cable).

Storage

Diskette Drive	None Standard - Optional Slimline Floppy Drive available (ejectable)
Optical Drive	Slimline DVD/CD-RW Drive Standard on all models (ejectable)
Hard Drives	None ship standard
Hard Disk Drive Backplane	Internal SAS backplane supports up to eight SFF hard disk drives

Maximum Internal Storage Type

Hot Plug SAS	576GB	8 x 72GB SFF SAS drives (internal hot plug)
Hot Plug SATA	480GB	8 x 60GB SFF SATA

Interfaces

Serial	1
Pointing Device (Mouse)	1
Video	1 front; 1 rear
Keyboard	1
USB 2.0 Ports	2 front; 2 rear
iLO2 Remote Management	1
Network RJ-45	2

Graphics

Integrated ATI-RN50 with 32MB DDR memory

Form Factor

Rack (4U = 7 inches), ships with Quick Deploy Sliding Rail System, an ambidextrous cable management arm and quick release levers for fast and easy serviceability and in-rack tool-less access to major components.
Space saving form factor (4U) provides space efficiencies while providing maximum deployment flexibility.

Standard Features

ProLiant Essentials Foundation Pack Software	HP Systems Insight Manager	HP's new HP Systems Insight Manager (HP SIM) helps maximize system uptime and performance and reduce system maintenance costs by providing proactive notification of problems before those problems result in unplanned downtime or reduced productivity. HP SIM is easy to set up to work with the Insight Management Agents, integrated Lights-Out 2, and Version Control Agents to deliver robust fault, configuration, and asset management as well as remote administration. With HP SIM, customers will also be able to take advantage of role-based security; the ability to manage ProLiant, Integrity, and HP 9000 systems; and plug-ins for storage, client, printer, and power management as well as server rapid deployment, performance management, and workload management. For more details on HP SIM visit http://www.hp.com/go/hpsim.
	SmartStart	SmartStart is a tool that simplifies server setup, providing a rapid way to deploy reliable and consistent server configurations. For more information, please visit the SmartStart Web site at http://www.hp.com/servers/smartstart. SmartStart version supported (minimum): SmartStart 7.50.
	Insight Management Agents	The Management Agents form the foundation for HP's Intelligent Manageability strategy. They provide direct, browser-based access to in-depth instrumentation built into HP servers, workstations, desktops, and portables, and send alerts to Systems Insight Manager and other enterprise management applications in case of subsystem or environmental failures. For additional information about the Management Agents and other management products from HP, please visit the management Web site at http://www.hp.com/servers/manage.
	Subscriber's Choice	Subscriber's Choice Driver and Support Alerts/Notifications is a web-based email subscription service that provides automatic delivery of software and driver change notifications for ProLiant products. Sign up at http://www.hp.com/go/subscriberschoice and customize your profile to receive various new alerts as they become available, on a weekly or monthly basis.
	ROMPaq, support software, and configuration utilities	The latest software, drivers, and firmware fully optimized and tested for your ProLiant server and options available in SmartStart or downloadable from Software and Drivers download pages, linked from the SmartStart website at http://www.hp.com/servers/smartstart.
	Survey Utility and diagnostics utilities	The most advanced configuration analysis, reporting and troubleshooting utilities used by HP and at your fingertips, available in SmartStart.
	Insight Diagnostics	The most advanced configuration analysis, reporting and troubleshooting utilities used by HP and at your fingertips, available in SmartStart.

Optional ProLiant Essentials Value Packs	Optional software offerings that selectively extend the functionality of an Adaptive Infrastructure to address specific business problems and needs:

- Rapid Deployment Pack (RDP) is an automated deployment and provisioning solution for all ProLiant servers. RDP includes the ProLiant Integration Module featuring ProLiant server pre-configured events for OS installation, and optimized software drivers, firmware and management agents. Every RDP disc includes 10-node trial licenses for evaluation purposes. RDP requires a license for each server deployed and is available for purchase with HP servers. For more information, visit: http://www.hp.com/servers/rdp.
- Workload Management Pack - provides easier management of complex environments, improving overall server utilization and enabling Windows® 2000 customers for the first time to confidently deploy multiple applications on a single multiprocessor ProLiant Server.
- Integrated Lights-Out Advanced Pack - upgrades the iLO 2 processor with comprehensive remote control including Virtual KVM graphical console, virtual media, power management and enterprise security.
- Performance Management Pack - a performance management solution that identifies and explains hardware performance bottlenecks on ProLiant servers and attached options enabling users to better utilize their valuable resources.
- Intelligent Networking Pack - detects and analyzes network bottlenecks or broken network linkages and steers traffic to the optimum route based on network conditions, plus it provides an extra layer of protection. The virus throttle feature of the solution slows the propagation of fast spreading virus.
- Vulnerability and Patch Management Pack - identifies and remediates software security vulnerabilities due to missing patches as well operating system configurations that can be exploited by viruses, worms, and other blended threats.
- Virtual Machine Management Pack - provides central management and control of virtual machines from Microsoft and VMware. Integrated approach provides the ability to manage both physical and virtual resources from a single management console.
- Server Migration Pack - The Server Migration Pack automates the manual processes required for migrating servers between physical or virtual platforms (P2V, V2P, and V2V).
- Server Migration Pack - P2P Edition: Upgrading or replacing your existing server? Effortlessly transition to new servers with automated, accurate and affordable migration of OS, application and data.
- Accelerated iSCSI Pack - enables the embedded Multifunction network controller to serve as both a NIC and an iSCSI HBA providing access to SAN storage over the same connection used for networking. Processing of the protocol stack is offloaded to the NIC reducing CPU utilization and greatly improving the speed with which the requests are processed and sent to the network.

NOTE: Flexible and volume quantity license kits are available for ProLiant Essentials Value Packs. Refer to http://www.hp.com/servers/proliantessentials or the various ProLiant Essentials Value Pack product QuickSpecs for more information.
NOTE: For more information regarding ProLiant Essentials Software, please see the following URL: http://www.hp.com/servers/proliantessentials.

Standard Features

Industry Standard Compliance	ACPI 1.0a. Compliant PCI 2.2 Compliant PXE Support WOL Support Physical Address Extension (PAE) Support Microsoft® Logo certifications USB 2.0 Support
Remote Management	Integrated Lights Out 2 (iLO2) Standard Management: • Virtual Text Remote Console • Virtual Power Button Control • Integrated Remote Console • Dedicated & full function shared network connectivity • Embedded system health • Browser, command line and scripted access • Automatic IP Configuration via DHCP/DNS/WINS • Industry Standard 128-bit Secure Sockets Layer (SSL) and Secure Shell security (SSH) • OS independent hardware health status • IML and iLO Event Logging • Support for 12 user accounts with customizable access privilege
Intelligent Manageability	HP Systems Insight Manager SmartStart Redundant ROM Remote Flash ROM Management Agents Integrated Management Log (IML) Automatic Server Recovery-2 (ASR-2) ROM-Based Setup Utility (RBSU) Dynamic Sector Repairing (with Smart Array Controllers) Drive Parameter Tracking (with Smart Array Controllers) Pre-Failure Warranty (covers processors, SCSI hard drives and memory) Redundant/adaptive load balancing NIC Support Hot Spare Boot NOTE: Upon the event of a failed processor or VRM in a multi-processing environment, the system will automatically reboot and use the remaining good processor(s).
Availability	HP Advanced Memory Protection Technology - delivers unsurpassed memory protection and server availability with the following supported modes of operation: • Advanced ECC (1 or More Memory Boards) Advanced ECC Memory is the default memory protection mode for the HP ProLiant DL580 G4. In Advanced ECC, the server is protected against correctable memory errors. The server will provide notification if the level of correctable errors exceeds a predefined threshold rate. The server does not fail because of correctable memory errors. Advanced ECC provides additional protection over Standard ECC in that it is possible to correct certain memory errors that would otherwise be uncorrectable and result in server failure. Whereas

Standard ECC can correct single-bit memory errors, Advanced ECC can correct single-bit and multi-bit memory errors if all failed bits are on the same DRAM device on the DIMM. Advanced ECC is the only mode in which hot-add operations are supported by adding a memory board with memory to the server while it is running.

- Online Spare Memory (1 or More Memory Boards)
  Offers a higher level of memory protection than Advanced ECC alone. If the number of single-bit correctable errors on a bank exceeds the pre-defined error threshold, that bank will fail over to the online spare bank without intervention or server interruption. The failed memory can then be replaced at the user's convenience during a scheduled maintenance window.

  Online Spare Memory is achieved by protecting active memory with online spare memory on the same memory board. No operating system support is required.
- Hot Plug Mirrored Memory (2 or 4 Memory Boards)
  Hot Plug Mirrored Memory provides a higher level of availability than Advanced ECC and Online Spare Memory. With Hot Plug Mirrored Memory, the server is protected against uncorrectable memory errors that would otherwise result in server failure. Hot Plug Mirrored Memory allows the server to keep two copies of all memory data on separate memory boards. If an uncorrectable error is encountered, the proper data is retrieved from the memory board that did not fail. In addition, Hot Plug Mirrored Memory allows failed or degraded DIMMs to be replaced while the server is running without requiring server downtime. The memory board with the failed DIMMs can be removed from the front of the server, failed DIMMs replaced, and the board re-inserted into the server without disengaging the server from the rack or interrupting the operating system.
- Hot Plug RAID Memory (4 Memory Boards)
  Hot Plug RAID Memory provides a similar level of protection as Hot Plug Mirrored Memory but obtains this protection using a smaller percentage of the installed memory. While Hot Plug Mirrored Memory keeps two copies of all memory data, Hot Plug RAID Memory keeps only one copy of all memory data and additional parity information. If an uncorrectable memory error is encountered, the server can create the proper data using data from the parity information and the other memory boards that contain no failures. In a Hot Plug RAID Memory configuration, 75% of the installed memory is available to the Operating System; 50% more than in a Hot Plug Mirrored Configuration. As with Hot Plug Mirrored Memory, Hot Plug RAID Memory allows failed DIMMs to be replaced while the server remains running and safely engaged in the rack.

	# of Memory Boards Installed			
Supported Modes	1 Board	2 Boards	3 Boards	4 Boards
Number of DIMMs Supported	4	8	12	16
Maximum Memory Supported	16 GB	32 GB	48 GB	64 GB
Advanced ECC Memory Protection	Yes	Yes	Yes	Yes
Online Spare Memory	Yes	Yes	Yes	Yes
Hot Plug Mirrored Memory	No	Yes	No	Yes
Hot Plug RAID Memory	No	No	No	Yes

Standard Features

- PCI-X Hot Plug Technology (Two 64bit/133-MHz PCI-X hot plug slots available with the Hot Plug PCI-X Mezzanine Option).
- Smart Array P400 Controller with optional Battery Backed Write Cache (BBWC) Enabler provides transportable data protection and increases overall controller performance. Up to 512MB Battery Backed Write Cache protection optional on HP ProLiant DL580 G4 (BBWC Enabler ships standard with 2P models).
- Hot Plug Redundant Fans - Six Hot Plug Redundant Fans ship standard with all models.
- Front Accessible Chassis - Redesigned chassis allows access to memory, processors and hard drives from the front of the server while it remains safely engaged in the rack. This provides easier serviceability and lowers the chance of interfering with neighboring servers' cables and components.
- Hot Plug Universal Drives - Up to eight Hot Plug Universal SFF SAS drives are supported.
- Hot Plug Redundant Power Supplies - Two Hot Plug Redundant Power Supplies ship standard with all 2P base models (2nd Hot Plug Redundant Power Supply is optional with 1P base models).

Serviceability

- Front and Rear accessibility provides unsurpassed serviceability by allowing the server to remain safely secured in the rack while maintaining Hot Plug RAID Memory, Hot Plug Universal Hard Drives, Hot Plug Redundant Power Supplies, as well as Processors and Processor Power Modules.
- Innovative Diagnostic Lighting
- Systems Insight Display - precisely depicts all major subsystems of the server (PCI I/O, Memory, CPU, Redundant Cooling, Interlock, Thermtrip) and gives instant visual indication of fault status. Located on top front of server.
- LED display on front panel indicates power, internal health, external health, Unit ID light.
- LED display on Memory board indicates Memory status, health, and protection mode.
- LED display on Processor board indicates Processor and Processor Power Module health.
- Tool-less, virtually cable-less interior design
  - Tool-less access to interior of server
  - Up to two, Slimline media drives are removable without the use of tools (ejectable)
  - Rear Access to Hot Plug Redundant Power Supplies
  - PCI Card Guides locks full length PCI cards in place
  - Six individually removable fans connect without cables to the system board
  - Processor/PPM Retention Cage securely locks Processors into their sockets
  - Tool-less removal of system board
- Quick Deploy Rails
  - Tool-less design "snap in" rail and ambidextrous cable management arm

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Security

Power-on password
Keyboard password
Diskette drive control enable/disable
Diskette boot control enable/disable
External USB port enable/disable
Network Server Mode
Serial interface control
Administrator's password
Disk configuration lock
Removable Diskette drive (optional)
Removable CD-ROM or DVD drive

Standard Features

Power Supply	910W (low line), 1300W (high line) with 12V main output. Size is 2.8"(H) X 4.9"(W) X 7.5"(L). NOTE: One Hot Plug Power Supply ships standard with 1P base models (optional Redundant Hot Plug Power Supply Option Kit). NOTE: Two Hot Plug Power Supplies ship standard with 2P base models.	
UPS and PDU Power Cord Matrix	Please see the UPS and PDU cable matrix that lists cable descriptions, requirements, and specifications for UPS and PDU units: ftp://ftp.compaq.com/pub/products/servers/ProLiantstorage/power-protection/powercordmatrix.pdf.	
System Fans	Standard	6 Hot plug, redundant fans (individually removable)
	Maximum	6 Hot plug, redundant fans (individually removable)
Required Cabling	For required cabling information, refer to the HP Web site at http://h18000.www1.hp.com/products/servers/proliantDL580/.	
OS Support	Windows Server 2003 Microsoft Windows 2000 Red Hat Linux SuSE Linux Novell NetWare SCO OpenServer SCO UnixWare Sun Solaris Intel Platform Edition VMware Virtualization Software NOTE: For a more complete and up-to-date listing of supported OSs and versions, please visit our OS Support Matrix at: http://www.hp.com/go/supportos. NOTE: For an up-to-date listing of the latest drivers available for the HP ProLiant DL580, please see: http://www.hp.com/support. NOTE: For a more complete and up-to-date information on Linux support, please visit HP Linux Web site at http://h18000.www1.hp.com/products/servers/linux/hpLinuxcert.html. NOTE: For more complete and up-to-date information on how to buy server operating systems from HP please visit the OS product site at: http://h18004.www1.hp.com/products/servers/software/OEM.html	

Standard Features

Rack Airflow Requirements

Rack 10000 series Cabinets The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.

CAUTION: If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment:

- Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 5,350 sq cm (830 square inches) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation).
- Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 7 cm (2.75 inches).

CAUTION: Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.

NOTE: For additional information, refer to the Setup and Installation Guide or the Documentation CD provided with the server, or to the server documentation located in the Support section at the following URL: http://www5.HP.com/products/servers/proliantdl580/index.html.

Rack Mounting Requirements

HP ProLiant DL580 G4 rack models provide tool-free support for racks with square or round mounting holes (including Compaq/HP 7000, 9000, 10000, HP/E series and H9 series) with an adjustment range from 24" - 36" in depth. The ambidextrous cable management arm can be mounted on either the left or right side for improved cable management.
NOTE: Cable management arm must be removed to access Hot Plug Power Supplies when the cable management arm is mounted on the right.

HP ProLiant DL580 G4 in Telco Racks
Support for all 2-post Telco racks requires the use of the standard rack kit and an additional option kit from Rack Solutions (http://www.racksolutions.com/hp/)

Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSA1000, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.
For more information on Factory Express services for your specific server model please contact your sales representative or go to http://www.hp.com/go/factory-express.

Enterprise Configurator

Please see the Enterprise Configurator for configuration assistance at: http://www.hp.com/products/configurator.

Standard Features

RoHS Compliant

For Resellers in countries/regions with RoHS legislation (see NOTE) (e.g. EU, China, etc.)
The use of the noted material in a solution and subsequent resale of that solution will result in the solution no longer meeting the requirements of RoHS legislation.

NOTE: Directive 2002/95/EC restricts the use of lead, mercury, cadmium, hexavalent chromium, PBBs and PBDEs in electronic products. Countries/regions outside the EU, eg. China, are introducing similar legislation. References to 'RoHS legislation' means requirements of Directive 2002/95/EC or to similar substance restriction legislation enacted by any country/region outside the EU.

Service and Support

This product is covered by a global limited warranty and supported by HP Services and a worldwide network of resellers and service providers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Additional support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services or customized service agreements.

NOTE: Limited warranty includes 3 year parts, 3 year labor, 3-year on-site support.
NOTE: SATA drives have a 1 year warranty.

From Web-based support…to remote diagnostic tools that help decrease downtime…to dedicated onsite service, HP and its service partners provide "as-you-need-it" access to ProLiant-specific knowledge and skills no other vendor can match.

Care Pack services provide a range of life cycle support options that let you choose the service levels that meet your business requirements, from basic to mission-critical.

A full range of HP Care Pack hardware and software services are available including:

- Installation and Start up services helps you get your ProLiant servers deployed rapidly
- Education courses provide industry leading training for IT professionals
- Support services for fast, efficient resolution of hardware and software issues
- Extending onsite hardware warranty coverage from next business day to same business day 13 hours, 5 day or 24 hours, 7 days call window with options including 4-hour response or 6-hour Call To Repair
- Comprehensive range of software technical support for Microsoft, Linux, ProLiant Essentials and VMWare-based IT solutions helping to deliver high level of application availability. Response times range from 30 mins for critical problems to 2 hours.
- System Management, Performance Services and Mission Critical Support Solution

HP Care Pack services include coverage for the HP branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as 22" and smaller external monitors and tower UPS options up to 3kVA; these items will be covered at the same service level and for the same coverage period as the server. Coverage of UPS Battery is not included, standard warranty terms & conditions apply. For servers or storage systems installed within a rack, service also covers all HP qualified rack options installed within the same rack.

NOTE: For more information on HP Care Pack services, contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: http://www.hp.com/hps/carepack

NOTE: For more information on Software Support offers contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: http://www.hp.com/hps/software

NOTE: For more information on HP ProLiant Essentials support offers contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: http://www.hp.com/hps/servers/sr_proliant_essentials.html

NOTE: For more information on HP training offers contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: http://www.hp.com/education/

NOTE: For more complete information on HP Services offerings, customers and resellers, please visit us at: http://www.hp.com/hps

NOTE: Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html

Solutions

The HP ProLiant DL580 G4 server is an enterprise class, 4-processor server designed for maximum scalability and high availability. It's radically redesigned chassis offers unsurpassed flexibility and serviceability in a versatile, rack-optimized form factor.
Based upon the latest industry standard processing, memory, I/O and networking technologies, the HP ProLiant DL580 G4 provides the highest levels of performance demanded by today's compute intensive applications. Unparalleled high availability features, including Hot Plug RAID Memory technology, an integrated Smart Array P400 controller, and hot-plug redundant components guarantee maximum uptime. The HP ProLiant DL580 G4's Integrated Lights-Out 2 technology, allows remote administration from a standard web-browser without ever having to visit the server. Within the 4U dense form factor, the HP ProLiant DL580 G4's highly expandable architecture provides maximum application deployment flexibility with the ability to add PCI-Express, hot plug PCI-X or battery-backed write cache options. Innovative new features, such as the ability to access processors, memory, hard drives, and power supplies while the unit remains secured in the rack, enable rapid response to service events, radically decreasing overall IT costs and server downtime.

Typical Usage:

Space-constrained corporate data centers and service providers

- With up to 576GB of internal storage, 16 DIMM sockets and PCI-Express or hot-plug PCI-X mezzanine options; the HP ProLiant DL580 G4 packs the storage, memory, and I/O you need in a versatile, 4U chassis
- Ambidextrous cable management and a quick deploy rail solution make racking a snap
- Availability features including hot plug RAID memory, hot plug redundant power, hot plug redundant fans, hot plug PCI-X and hot plug RAID hard drives keep environments up and running and users productive

Database, Messaging and Business Applications

- The latest 64-bit Intel® Xeon™ processors with Hyper-Threading, DDR-2 memory, and large internal storage capacity provide scalability for everything from web apps to mail servers to databases
- Four standard PCI-Express x4 slots and one standard full-length PCI-X slot and the ability to add either two additional X4 PCI Express, one additional X8 PCI Express, or two additional hot plug PCI-X slots, provide powerful and flexible I/O alternatives
- Dual integrated multi-function gigabit NIC gives you the connectivity and bandwidth needed in today's database or business applications environments
- Easily attach to SAN or NAS and manage from one location

Server Consolidation

- Scalability, availability and built-in serviceability make the HP ProLiant DL580 G4 the perfect platform for server consolidation solutions
- The ProLiant HP DL580 G4 and ProLiant Essentials make it easy to deploy, manage, and migrate virtualized servers with VMware or Microsoft Virtual Server
- Integrated Lights-Out 2 enables administrators to manage the HP ProLiant DL580 G4 from remote locations

For more solutions visit: http://www.hp.com/solutions/proliantdl580.

Models

HP DL580 G4 High Performance Models HP DL580R04 X7041 4GB P400 DC 2P 403413-xx1 HP DL580R04 X7030 4GB P400 DC 2P 403412-xx1	Processor(s) Two of the following depending on Model. Up to 4 supported.	Dual-core 64-bit Intel Xeon 7041 Processors (3.00 GHz, 800MHz FSB) Dual-core 64-bit Intel Xeon 7030 Processors (2.80 GHz, 800MHz FSB)
	Cache Memory One of the following depending on Model.	2 x 2MB level 2 cache 2 x 1MB level 2 cache
	Memory	(2) Memory Cartridges (up to 4 supported) 4 GB PC2-3200R registered ECC SDRAM (Standard) to 64GB (Maximum) (2x1 interleaved memory and Advanced Memory Protection Technology) NOTE: Four memory boards would be required to configure up to 64GB using 4GB DIMMs
	Network Controller	Embedded Dual NC371i Multifunction Gigabit NICs
	Storage Controller	Smart Array P400 Controller with 512MB BBWC
	Manageability	Integrated Lights-Out 2 (iLO2) Standard Management
	Hard Drives	None ship standard
	Internal Storage	576GB max (with optional 72GB SFF SAS Hot Plug hard drives)
	Power Supplies	Two 910W/1300W Power Supplies standard (second power supply for redundancy)
	Optical Drive	Slimline DVD/CD-RW Drive (8X/24X) (ejectable)
	Diskette Drive	None ship standard (optional Ejectable Slimline Floppy Drive)
	Form Factor	Rack 4U

Country Code Key	XX=00	US
	XX=20	Brazil
	XX=42	Int'l, Europe
	XX=29	Japan
	XX=37	APD
	XX=AA	PRC

NOTE: For Configure to Order requirements within EMEA region, please consult local Sales Contact.
NOTE: HP does not allow factory integration of options into standard models listed above.
Configure-to-order servers must start with a CTO Chassis.
NOTE: This product offering does not support HP Factory Express Server Configuration Level 1.
NOTE: FIO indicates that this option only available as a Factory Installable Option.

Step 1: Base Configuration

Models	HP ProLiant DL580 G4 Highly Serviceable Rack Chassis	410058-B21
	Factory Integrated Model ships with:	
	Embedded Dual NC371i Multifunction Gigabit NICs	
	Four standard PCI-Express x4 slots and one 64-bit/133MHz non-hot plug PCI-X slots	
	One (1) Hot Plug Power Supply with One high-line IEC power cord	
	Six (6) Redundant Hot Plug Fans	
	SFF SAS Drive Cage	
	Integrated Lights-Out 2 (iLO2) Standard Management	
	Rack (4U), 7-inch	

Step 2: Choose Required Options (only one of the following from each list unless otherwise noted)

Processors	Dual-core 64-bit Intel Xeon 7041 (3.00GHz, 2x2M L2) 580 G4 FIO NOTE: If more than one processor is desired, additional processor selections would be 404752-B21 unless High Performance Model features are desired, then select 410059-B21 which includes a 2nd processor and select any desired additional processors.	404752-L22
	Dual-core 64-bit Intel Xeon 7030 (2.80GHz, 2x1M L2) 580 G4 FIO NOTE: If more than one processor is desired, additional processor selections would be 404753-B21 unless High Performance Model features are desired, then select 410060-B21 which includes a 2nd processor and select any desired additional processors.	404753-L22
Base Memory	8 GB (2 x 4 GB 2RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit	404122-B21
	4 GB (2 x 2 GB 2RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit NOTE: With Advanced ECC and online spare memory capabilities. 2GB 2RANK DIMM's are recommended with the HP ProLiant DL580 G4. However, 2GB 1RANK DIMM's are also supported for commonality with other HP ProLiant servers.	375004-B21
	4 GB (2 x 2 GB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit NOTE: With Advanced ECC and online spare memory capabilities.	343057-B21
	2 GB (2 x 1 GB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit NOTE: With Advanced ECC and online spare memory capabilities.	343056-B21
	1 GB (2 x 512 MB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit NOTE: With Advanced ECC and online spare memory capabilities.	343055-B21
Storage Controllers	HP Smart Array P400/256MB Controller	405132-B21
	HP Smart Array P400 Controller/512MB and BBWC	411064-B21
	HP Smart Array P600 Controller	337972-B21
Optical Drive	Slimline CD-RW/DVD-ROM 24X Combo Drive Option Kit (Servers)	331903-B21
	Slimline DVD-ROM Drive (8X/24X) Option Kit (Servers)	264007-B21
	HP DVD+R/RW 8X Slimline	383975-B21

Step 3: Choose Additional Factory Integratable Options

High Performance Model Options

The HP ProLiant DL580 G4 Performance Packs include the latest performance technologies and enterprise class availability features pre-installed for convenience and value. In addition to the standard features listed in Step 1, the Performance Packs include the following:

- 2nd Intel Xeon Processor and Processor Power Module
- 2nd Rear Accessible Hot Plug Redundant Power Supplies

DL580G4 X7041 (3.00 GHz, 2x2MB L2 Cache) HPM Performance Pack	410059-B21
DL580G4 X7030 (2.80 GHz, 2x1MB L2 Cache) HPM Performance Pack	410060-B21

Step 4: Choose Additional Options for Factory Integration

NOTE: For additional options, please refer to the "Options" section below.

ProLiant DL580 Unique Options	Hot Plug 64-bit/133MHz PCI-X Mezzanine Option NOTE: Adds two Hot Plug PCI-X slots.	377520-B21
	PCI Express X4 Mezzanine Option NOTE: Adds two PCI Express (X4) I/O slots. Each slot will accept PCI Express cards with X1 through X8 connectors and utilize X4 lanes.	377522-B21
	PCI Express X8 Mezzanine Option NOTE: Adds one PCI Express (X8) I/O slot. The slot will accept PCI Express Cards with X1 through X8 connectors and utilize X8 lanes.	389876-B21
	DL580 G4 Memory Expansion Board NOTE: The HP ProLiant DL580 G4 utilizes up to four Memory Expansion Boards that support up to four DIMMs each. These memory boards are Front accessible providing unsurpassed levels of memory protection as well as scalability for the most memory-intensive applications. See Memory Configuration Diagram. NOTE: One Memory Expansion Board ships standard with 1P models. Two Memory Expansion Boards ship standard with High Performance 2P models.	410061-B21
ProLiant Essentials Value Pack Software	**ProLiant Essentials Accelerated iSCSI Pack**	
	ProLiant Essentials Accelerated iSCSI Pack, Single Server License NOTE: For additional Accelerated iSCSI Pack License Kits, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12466_div/12466_div.HTML	407484-B21
	ProLiant Essentials Integrated Lights-Out Advanced Pack	
	ProLiant Essentials Integrated Lights-Out Advanced Pack, 1 server Featuring: sophisticated virtual administration features for ultimate control of servers in the data centers and remote sites. NOTE: For additional ProLiant Integrated Light-Out Advanced Pack License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11052_div/11052_div.HTML	263825-B21
	ProLiant Essentials Intelligent Networking Pack	
	ProLiant Essentials Intelligent Networking Pack, Single Server License NOTE: For use with a single server. Contains one license with a unique license activation key and documentation. NOTE: For additional ProLiant Intelligent Networking Pack License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12062_div/12062_div.HTML	372906-B21
	ProLiant Essentials Intelligent Networking Pack - Linux Edition, Single Server License NOTE: For additional ProLiant Intelligent Networking Pack - Linux License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12327_div/12327_div.HTML	397004-B21
	ProLiant Essentials Performance Management Pack	
	ProLiant Essentials Performance Management Pack, Single-Server License NOTE: For use with a single server. Contains one license with a unique license activation key, HP Management CD and documentation. NOTE: The most recent version of the software can always be downloaded at http://www.hp.com/products/pmp. NOTE: For additional ProLiant Performance Management Pack License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11925_div/11925_div.HTML	306696-B21
	ProLiant Essentials Rapid Deployment Pack	

Options

	Rapid Deployment Pack, Single-Server License NOTE: This license allows 1 server to be deployed and managed via RDP.	267196-B21
	Rapid Deployment Pack, Single-Server License (Japan) NOTE: This license allows 1 server to be deployed and managed via RDP.	267196-291
	NOTE: For additional ProLiant Essentials Rapid Deployment Pack License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11053_div/11053_div.HTML	
	ProLiant Essentials Workload Management Pack	
	ProLiant Essentials Workload Management Pack, Single Server License	303284-B21
	NOTE: For additional ProLiant Workload Management Pack License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11452_div/11452_div.HTML	
	ProLiant Essentials Virtualization Management Software	
	ProLiant Essentials Virtual Machine Management Pack, Single-Server License NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.	372214-B21
	ProLiant Essentials Server Migration Pack, Single-Migration License NOTE: Contains one license, enabling 1 server migration, with a unique license activation key and documentation.	375345-B21
	ProLiant Essentials Server Migration Pack - Physical to ProLiant Edition, Single-Migration License	412978-B21
	NOTE: This license allows 1 server to be migrated from a physical server to a virtual machine. Or this license can be used to migrate a virtual machine from one virtualization layer i.e. VMware GSX to a different virtualization layer such as VMware ESX or Microsoft Virtual Server 2005.	
	NOTE: For additional ProLiant Essentials Virtualization Management Software License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12328_div/12328_div.HTML	
	ProLiant Essentials Vulnerability and Patch Management Pack	
	ProLiant Essentials Vulnerability and Patch Management Pack, Single-Server License NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.	371645-B21
	NOTE: For additional ProLiant Vulnerability and Patch Management Pack License Kits, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12111_div/12111_div.HTML	
	NOTE: Flexible and volume quantity license kits are available for ProLiant Essentials Value Packs. Refer to http://www.hp.com/servers/proliantessentials or the various ProLiant Essentials Value Pack product QuickSpecs for more information. NOTE: For more information regarding ProLiant Essentials Software, please see the following URL: http://www.hp.com/servers/proliantessentials.	
Processor	Dual-Core 64-bit Intel Xeon 7041 (3.00GHz, 800MHz FSB) Processor Option Kit NOTE: This processor option kit supports the HP ProLiant DL580 G4 and the HP ProLiant ML570 G4.	404752-B21
	Dual-Core 64-bit Intel Xeon 7030 (2.80GHz, 800MHz FSB) Processor Option Kit NOTE: This processor option kit supports the HP ProLiant DL580 G4 and the HP ProLiant ML570 G4.	404753-B21

Options

Memory (DIMMs)	8 GB (2 x 4 GB 2RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit	348106-B21
	4 GB (2 x 2 GB 2RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit NOTE: With Advanced ECC and online spare memory capabilities. 2GB 2RANK DIMM's are recommended with the HP ProLiant DL580 G4. However, 2GB 1RANK DIMM's are also supported for commonality with other HP ProLiant servers.	375004-B21
	4 GB (2 x 2 GB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit NOTE: With Advanced ECC and online spare memory capabilities.	343057-B21
	2 GB (2 x 1 GB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit NOTE: With Advanced ECC and online spare memory capabilities.	343056-B21
	1 GB (2 x 512 MB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit NOTE: With Advanced ECC and online spare memory capabilities.	343055-B21
	DL580 G4 Memory Expansion Board NOTE: The HP ProLiant DL580 G4 utilizes up to four Memory Expansion Boards that support up to four DIMMs each. These memory boards are Front accessible providing unsurpassed levels of memory protection as well as scalability for the most memory-intensive applications. See Memory Configuration Diagram. NOTE: One Memory Expansion Board ships standard with 1P base models and two Memory Expansion Boards ship standard with 2P High Performance models.	410061-B21
Diskette Drive	Slimline Floppy Diskette Drive Option Kit NOTE: Ejectable drive.	390164-B21
Optical Drives	Slimline CD-RW/DVD-ROM Combo Drive Option Kit NOTE: Ejectable drive.	331903-B21
	Slimline DVD-ROM Drive (8X/24X) Option Kit NOTE: Ejectable drive.	264007-B21
	Slimline DVD+R/RW 8X Drive Option Kit NOTE: Ejectable drive	383975-B21
Hard Drives	Serial Attached SCSI (SAS) SFF Hot Plug	
	HP 36GB 3G SAS 10K SFF HDD	375859-B21
	HP 72GB 3G SAS 10K SFF HDD	375861-B21
	NOTE: Please see the SAS Hard Drive QuickSpecs for Technical Specifications such as capacity, height, width, interface, transfer rate, seek time, physical configuration, and operating temperature: http://h18000.www1.hp.com/products/quickspecs/12224_div/12224_div.HTML (Worldwide)	
	SFF SATA Hot Plug	
	HP 60GB 1.5G SATA 5.4K SFF HDD	379306-B21
	NOTE: SATA drives have a 1 year warranty. Please see the SATA Hard Drive QuickSpecs for Technical Specifications such as capacity, height, width, interface, transfer rate, seek time, physical configuration, and operating temperature: http://h18000.www1.hp.com/products/quickspecs/11940_div/11940_div.HTML (Worldwide)	
Storage Controllers	PCI Option	

x4-x8 PCI-Express Bus Expander Option NOTE: The HP ProLiant DL580 Generation 4 Server can support up to two x4-x8 PCI Express bus expander boards. The bus expander can only be installed in expansion slots 5 and 7 to convert the adjacent lower-numbered expansion slot to a PCI Express x8 expansion slot.	403724-B21
SAS Controllers	
Smart Array E200 Controller	
HP Smart Array E200/128 Controller	411508-B21
HP Smart Array E200/64 Controller	409180-B21
128-MB BBWC (Battery-Backed Write Cache) Enabler NOTE: Supports the Smart Array E200 Controller, Smart Array 641 Controller, Smart Array 642 Controller.	351580-B21
Smart Array P400 Controller	
HP Smart Array P400/256MB Controller NOTE: The Smart Array P400 Controller supports internal Serial Attached SCSI and Serial ATA drives. It is supported in all HP ProLiant DL580 G4 Models. This controller model ships standard on 1P Models.	405132-B21
HP Smart Array P400 Controller/512MB and BBWC NOTE: The Smart Array P400 Controller supports internal Serial Attached SCSI and Serial ATA drives. It is supported in all HP ProLiant DL580 G4 Models. This controller model ships standard on 2P Models.	411064-B21
512MB DDR BBWC Upgrade NOTE: For Smart Array P400 Controller only.	405148-B21
Battery-backed write cache upgrade NOTE: For Smart Array P400 Controller only.	383280-B21
Smart Array P400 Battery Attach Kit NOTE: This option kit contains a 24" battery cable and adhesive material for installing a battery into the server if a Smart Array P400 is integrated outside of the factory. For all solutions, please refer to the server QuickSpecs and User's Manual for detailed installation instructions.	417836-B21
Smart Array P600 Controller	
Smart Array P600 Controller NOTE: The Smart Array P600 Controller supports internal and external Serial Attached SCSI and Serial ATA drives. It is supported in all HP ProLiant DL580 G4 Models.	337972-B21
512MB DDR BBWC Upgrade NOTE: For Smart Array P600 Controller only.	372538-B21
NOTE: Please see the following SAS Controller QuickSpecs for Technical Specifications such as PCI Bus, PCI Peak Data Transfer Rate, Protocols supported, Peak Data Transfer Rate, Channels, Ports, Drives supported, Cache, RAID support, and additional information: http://h18000.www1.hp.com/products/quickspecs/12460_div/12460_div.HTML (Smart Array E200 Controller) http://h18000.www1.hp.com/products/quickspecs/12400_div/12400_div.HTML (Smart Array P400 Controller) http://h18000.www1.hp.com/products/quickspecs/12247_div/12247_div.HTML (Smart Array P600 Controller)	
SAS HBA	
HP 8 Internal Port SAS HBA with RAID	347786-B21

	NOTE: Please see the HBA QuickSpecs for additional information: http://h18004.www1.hp.com/products/quickspecs/12332_div/12332_div.html (SAS HBA)	
	SCSI Controllers for External Drive/Storage Support	
	Smart Array 6402/128 Controller	273915-B21
	Smart Array 6404/256 Controller	273914-B21
	Ultra320 Expansion Module for SA-6402	273911-B21
	Smart Array 642 Controller	291967-B21
	128-MB BBWC (Battery-Backed Write Cache) Enabler NOTE: Supports the Smart Array 641, and Smart Array 642 Controller.	351580-B21
	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21
	NOTE: Please see the following Controller or SCSI Adapter QuickSpecs for Technical Specifications such as PCI Bus, PCI Peak Data Transfer Rate, SCSI Protocols supported, SCSI Peak Data Transfer Rate, Channels, SCSI Ports, Drives supported, Cache, RAID support, and additional information: http://h18000.www.1.hp.com/products/quickspecs/12030_div/12030_div.HTML (Smart Array 6i) http://h18000.www1.hp.com/products/quickspecs/11587_div/11587_div.HTML (Smart Array 6400 Series) http://h18000.www1.hp.com/products/quickspecs/12069_div/12069_div.HTML (Smart Array 642) http://h18000.www1.hp.com/products/quickspecs/11943_div/11943_div.HTML (U320 G2 Adapter)	
Communications	HP NC150T PCI 4-port Gigabit 1000T Combo Switch Adapter	367132-B21
	HP NC310F PCI-X 1000SX Gigabit Server Adapter	368169-B21
	HP NC320T PCI Express 1000T Gigabit Server Adapter	367047-B21
	HP NC340T PCI-X 4-port Gigabit Server Adapter	391661-B21
	HP NC370F PCI-X Multifunction 1000SX Gigabit Server Adapter	374193-B22
	HP NC370T PCI-X Multifunction 1000T Gigabit Server Adapter	374191-B22
	HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
	HP NC380T PCI Express Dual Port Multifunction Gigabit Server Adapter	394795-B21
	HP NC1020 PCI 1000T Gigabit Server Adapter	353377-B21
	HP NC7170 PCI-X Dual Port 1000T Gigabit Server Adapter	313881-B21
	HP NC7771 PCI-X 1000T Gigabit Server Adapter	290563-B21
	NOTE: Any NIC, except the NC1020, on the option list can be used for redundancy with the embedded NC371i NIC. When teaming with other NICs or with the embedded NIC, the lack of Jumbo Frames and LSO features on the NC1020 will cause high end NICs to have those features disabled. (e.g. incompatibility issues with the other option NICs for that platform).	
Redundant Options	910W (low line), 1300W (high line) Hot Plug Redundant Power Supply US - includes Nema 5-15P to IEC320-C19	348114-001
	910W (low line), 1300W (high line) Hot Plug Redundant Power Supply -includes C14 to C19 IEC cable	348114-B21

Options

Tape Drives

NOTE: For a complete listing of HP Tape Drive offerings supported with the HP ProLiant DL580 G4, please see: http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html
NOTE: The following tape drives are recommended for use with the HP ProLiant DL580 G4.

USB Tape Drives

HP StorageWorks DAT 72 USB External Tape Drive (Carbonite)	DW027A

Ultrium Tape Drives - External, Rack-Mount and Array

HP StorageWorks Ultrium 232 External Tape Drive (Carbonite)	DW065B
HP StorageWorks Ultrium 448 External Tape Drive (Carbonite)	DW017B
HP StorageWorks 1U Rack-mount kit with one Ultrium 448 (Carbonite)	DW028B
HP StorageWorks Ultrium 460 External Tape Drive (Carbon)	Q1520B
HP StorageWorks 3U Rack-mount kit with one Ultrium 460 (Carbon)	350546-B22

NOTE: Please see the HP StorageWorks Ultrium Tape Drive QuickSpecs for additional options such as controllers, media, and other related items: http://h18006.www1.hp.com/products/quickspecs/11739_div/11739_div.html (Worldwide)
http://h18006.www1.hp.com/products/quickspecs/12128_div/12128_div.html (Worldwide)

For an up-to-date listing of the latest O/S and software support details for HP Ultrium tape drives, please visit: http://www.hp.com/go/connect

Rack-Mount Tape Drive Enclosures

HP StorageWorks 1U Rack-Mount Kit	A7445B

NOTE: The 1U Rack-mount Kit can support up to (2) half-height tape drives and compatible with multiple Single-Ended and LVD SCSI tape drives including the DAT 24, DAT 40, DAT 72, DLT VS80, DLT VS160, Ultrium 215, Ultrium 232 and Ultrium 448 tape drives.

HP StorageWorks 1U USB Rack-Mount Kit	A8007A
1U USB Cable Option Kit	396114-B21

NOTE: Converts a 1U SCSI rack-mount kit to a USB interface to support the USB tape drives.

HP StorageWorks 3U Rack-Mount Kit	274338-B22

NOTE: The 3U Rack-mount Kit can support up to (2) full-height or (4) half-height tape drives and compatible with multiple Single-Ended and LVD SCSI tape drives including DAT 24, DAT 40, DAT 72, DLT VS80, DLT VS160, SDLT 320, SDLT 600, Ultrium 215, Ultrium 230, Ultrium 232, Ultrium 460, Ultrium 448 and Ultrium 960 tape drives.

NOTE: Please see the Rack-Mount Tape Drive Kits QuickSpecs for additional information regarding these kits: http://h18000.www1.hp.com/products/quickspecs/10854_div/10854_div.HTML (Worldwide)

Options

Tape Autoloaders	HP StorageWorks 1/8 Tape Autoloader	AF204A
	HP StorageWorks 1/8 Ultrium 960 Tape Autoloader	AF203A
	HP StorageWorks 1/8 Ultrium 448 Tape Autoloader	AF202A
	HP StorageWorks 1/8 Ultrium 232 Tape Autoloader	C9268R
	1/8 Tape Autoloader Rackmount Kit NOTE: Required to install the 1/8 tape autoloader in a standard 19-inch rack. NOTE: Please reference the 1/8 Tape Autoloader QuickSpecs at http://www.hp.com/go/automation for additional information needed to create a complete solution; reference current compatibility information at http://www.hp.com/go/ebs	
Tape Libraries	**HP StorageWorks MSL2024 Tape Library**	
	HP StorageWorks MSL2024 1 Ultrium 960 Drive Library	AG115A
	HP StorageWorks MSL2024 1 Ultrium 960 FC Drive Library	AG326A
	HP StorageWorks MSL2024 1 Ultrium 448 Drive Library	AG116A
	HP StorageWorks MSL2024 2 Ultrium 448 Drive Library	AG117A
	HP StorageWorks MSL4048 Tape Library	
	HP StorageWorks MSL4048 1 Ultrium 448 Drive Library	AG320A
	HP StorageWorks MSL4048 2 Ultrium 448 Drive Library	AG321A
	HP StorageWorks MSL4048 1 Ultrium 960 Drive Library	AG322A
	HP StorageWorks MSL2024 1 Ultrium 960 FC Drive Library	AG326A
	HP StorageWorks MSL4048 2 Ultrium 960 Drive Library	AG323A
	HP StorageWorks MSL4048 2 Ultrium 960 FC Drive Library	AG325A
	HP StorageWorks MSL6000 Tape Library	
	Ultrium 960 technology	
	HP StorageWorks MSL6030 1 Ultrium 960 Dr LVDS Library	AD606B
	HP StorageWorks MSL6030 1 Ultrium 960 Dr FC Library	AD608B
	HP StorageWorks MSL6030 2 Ultrium 960 Dr LVDS Library	AD607B
	HP StorageWorks MSL6030 2 Ultrium 960 Dr FC Library	AD609B
	Ultrium 460 technology	
	HP StorageWorks MSL6030 1 Ultrium 460 Dr LVDS Library	AD598B
	HP StorageWorks MSL6030 1 Ultrium 460 Dr FC Library	AD600B
	HP StorageWorks MSL6030 2 Ultrium 460 Dr LVDS Library	AD599B
	HP StorageWorks MSL6030 2 Ultrium 460 Dr FC Library	AD601B
	NOTE: Please reference the MSL2024, MSL4048 and MSL6000 Tape Library QuickSpecs at http://www.hp.com/go/automation for additional information needed to create a complete solution; reference current compatibility information at http://www.hp.com/go/ebs.	

Options

HP Data Protector Express Software	HP DP Express Backup Server Upgrade for ProLiant Software	BB117AP
	HP DP Express Package for Microsoft Small Business Server	BB118AA
	NOTE: To obtain a free licensed copy of HP Data Protector Express for ProLiant edition software, please visit the "Protect Your Data" link accessible from your ProLiant server's System Management Homepage (SMH) software (SmartStart 7.5 or later).	
	NOTE: Please see the HP Data Protector Express QuickSpecs for additional information regarding the purchase of HP Data Protector Express software: http://h18000.www1.hp.com/products/quickspecs/12337_div/12337_div.html (Worldwide)	
Cluster Options	ProLiant Cluster Starter Kit	364023-B21
	NOTE: For additional information regarding the ProLiant Cluster Starter Kit please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11935_div/11935_div.html (Worldwide)	
	HP HA/F200 for Entry SAN Cluster	364026-B22
	HP HA/F200 for Entry SAN Cluster (Japan)	364026-292
	NOTE: For additional information regarding the ProLiant Cluster for Entry Level SAN please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11932_div/11932_div.html (Worldwide)	
	ProLiant Cluster HA/F500 for the Enterprise SAN	364024-B21
	NOTE: For additional information regarding the ProLiant Cluster HA/F500 for Enterprise SAN please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11933_div/11933_div.html (Worldwide)	
	HP Serviceguard for Linux ProLiant Cluster A.11.16 for SUSE SLES 9 and Red Hat EL 3 & 4 (2 node license cluster kit)	305199-B26
	HP Serviceguard for Linux A.11.16 for SUSE SLES9 and Red Hat EL 3 & 4 (single license version)	307754-B26
	HP Serviceguard for Linux and Red Hat Global File System - 1 year subscription	T2798AA#001
	HP Serviceguard for Linux and Red Hat Global File System - 3 years subscription	T2798AA#003
	NOTE: For additional information regarding the HP Serviceguard for Linux License, please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11518_div/11518_div.html (Worldwide)	
	NOTE: For configuration/certification options for the HP Parallel Database Cluster for Oracle RAC please go to: http://www.hp.com/solutions/highavailability/oracle	

Options

StorageWorks Options	NOTE: The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see: http://h18006.www1.hp.com/storage/saninfrastructure/hba.html	
	StorageWorks 2 Gb, 64-bit/133 MHz PCI-X-to-Fibre Channel Host Bus Adapter for Windows, Linux and Netware	281541-B21
	StorageWorks 2 Gb, Dual Port, 64-Bit/133 MHz PCI-X-to-Fibre Channel Host Bus Adapter Windows, Linux and Netware	321835-B21
	HP StorageWorks 2 Gb, single channel, 133 MHz PCI-X-to-Fibre Channel Host Bus Adapter Windows and Linux	A7388A
	HP StorageWorks 2 Gb, dual channel, 133 MHz PCI-X-to-Fibre Channel Host Bus Adapter Windows and Linux	A7387A
	HP StorageWorks FC2142SR 4Gb PCI-E HBA for Windows and Linux	A8002A
	HP StorageWorks FC2242SR Dual Channel 4 Gb PCI-E HBA for Windows and Linux	A8003A
	HP StorageWorks FC1142SR 4Gb PCI-E HBA for Windows and Linux	AE311A
	HP StorageWorks FC1242SR Dual Channel 4 Gb PCI-E HBA for Windows and Linux	AE312A
	HP StorageWorks FC2143 4Gb PCI-X 2.0 HBA for Windows and Linux	AD167A
	HP StorageWorks FC2243 4Gb PCI-X 2.0 DC HBA for Windows and Linux	AD168A
	HP StorageWorks Q200 FC HBA	A7523A
	HP Storageworks FC1143 4Gb PCI-X 2.0 HBA	AB429A
	HP Storageworks FC1243 4Gb PCI-X 2.0 DC HBA	AE369A
HP StorageWorks Modular Smart Array 20	HP StorageWorks Modular Smart Array 20 NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies.	335921-B21
	HP StorageWorks Modular Smart Array 20 Starter Kit NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies. Includes Smart Array 6402/128 Controller. NOTE: The Modular Smart Array Enclosure 20 Family supports the SATA 1.5Gb/s 3.5" Hot Plug Hard Drives.	366172-B21
HP StorageWorks Modular Smart Array 30	HP StorageWorks Modular Smart Array 30 SB NOTE: Rack-mountable 14 drive enclosure with single bus, redundant power supplies.	302969-B21
	HP StorageWorks Modular Smart Array 30 DB NOTE: Rack-mountable 14 drive enclosure with dual bus, redundant power supplies. NOTE: The Modular Smart Array Enclosure 30 Family supports the Wide Ultra3, Ultra320 Hot Plug Hard Drives.	302970-B21
HP StorageWorks Modular Smart Array 50	HP StorageWorks Modular Smart Array 50 Enclosure NOTE: Please see the Modular Smart Array 50 QuickSpecs for additional options and configuration information at http://h18000.www1.hp.com/products/quickspecs/12245_div/12245_div.HTML (Worldwide)	364430-B21

Options

HP StorageWorks Modular Smart Array 500	HP StorageWorks Modular Smart Array 500 Generation 2 NOTE: Please see the Modular Smart Array 500 Generation 2 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/11956_div/11956_div.HTML (Worldwide)	335880-B21
HP StorageWorks Modular Smart Array 1000	HP StorageWorks Modular Smart Array 1000 NOTE: Please see the Modular Smart Array 1000 QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/11033_div/11033_div.HTML (Worldwide)	201723-B22
HP StorageWorks Modular Smart Array 1500 cs	Modular Smart Array 1500 Controller Shelf NOTE: Please see the StorageWorks Modular SAN Array 1500 cs QuickSpecs for additional options and configuration information at: http://www.hp.com/go/MSA1500cs	AA986A
Uninterruptible Power Systems - Rack	HP UPS R1500 XR (1440VA, 1340 Watt), Low Voltage (NA)	204404-001
	HP UPS R1500 XR (1500VA, 1340 Watt), High Voltage (Int'l)	204404-B31
	HP UPS R1500 XR (1500VA, 1340 Watt), Low Voltage (Japan)	204404-291
	HP, R1.5kVA UPS, 1U, NA	AF419A
	HP, R1.5kVA UPS, 1U, INTL	AF418A
	HP, R1.5kVA UPS, 1U, JPN/TW	AF421A
	HP UPS R3000 XR (2880VA, 2700 Watt), Low Voltage (NA)	192186-001
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (NA)	192186-002
	HP UPS R3000 XR (2400VA, 2250 Watt), Low Voltage (Japan)	192186-291
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (Japan)	192186-292
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (Int'l - detachable cord)	192186-B31
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (16A IEC309 Plug)	192186-B32
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (16A CEE 7/7 SCHUKO Plug)	192186-B33
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (16A BS-546 Plug)	192186-AR1
	HP R3000 VA UPS, 2U, DTC, INTL NOTE: Replaces non-RoHs compliant part numbers 192186-B31, 192186-B32, 192186-B33, 192186-AR1.	AF414A
	HP R3000 VA UPS, 2U, L5-30, NA NOTE: Replaces non-RoHs compliant part number 192186-001.	AF422A
	HP R3000 VA UPS, 2U, L6-20, NA NOTE: Replaces non-RoHs compliant part number 192186-002.	AF423A
	HP R3000 VA UPS, 2U, L6-20, JPN NOTE: Replaces non-RoHs compliant part number 192186-292.	AF424A
	HP R3000 VA UPS, 2U, L5-30, JPN NOTE: Replaces non-RoHs compliant part number 192186-291.	AF425A
	HP UPS R5500 XR, (5000VA, 4500 Watt), High Voltage (NA/Jpn)	326529-D71

	HP UPS R5500 XR, (6000VA, 5400 Watt), High Voltage (Int'l)	326529-B31
	HP R5500 VA UPS, INTL NOTE: Replaces non-RoHs compliant part number 326529-B31.	AF416A
	HP R5500 VA UPS, NA/JPN NOTE: Replaces non-RoHs compliant part number 326529-D71.	AF426A
HP Monitored Power Distribution Unit (PDU)	**HP Monitored Power Distribution Unit: Full Rack Version**	
	HP 17.3 kVA S2324 Monitored PDU- dual input, 3-phase, 24A (NA/JPN)	370959-D71
	HP 8.3 kVA S1324 Monitored PDU- single input, 3-phase, 24A (NA/JPN)	370960-D71
	HP 16.6 kVA S2140 Monitored PDU- dual input, 1-phase, 40A (NA/JPN)	370961-D71
	HP 8.6 S1140 Monitored PDU- single input, 1-phase, 40A (NA/JPN)	370962-D71
	HP 22.1 kVA S2316 Monitored PDU- dual input, 3-phase, 16A (INTL)	370963-B31
	HP 11 kVA S 1316 Monitored PDU- single input, 3-phase, 16A (INTL)	370964-B31
	HP 14.7 kVA S2132 Monitored PDU- dual input, 1-phase, 32A (INTL)	370965-B31
	HP 7.4 kVA S1132 Monitored PDU- single input, 1-phase, 32A (INTL)	370966-B31
	HP 17.3 kVA S2324 Monitored PDU- dual input, 3U, 24A (NA/JPN) NOTE: Replaces non-RoHs compliant part number 370959-D71.	AF503A
	HP 8.3 kVA S1324 Monitored PDU- single input, 3U, 24A (NA/JPN) NOTE: Replaces non-RoHs compliant part number 370960-D71.	AF504A
	HP 16.6 kVA S2140 Monitored PDU- dual input, 1U, 40A (NA/JPN) NOTE: Replaces non-RoHs compliant part number 37061-D71.	AF505A
	HP 8.6 S1140 Monitored PDU- single input, 1U, 40A (NA/JPN) NOTE: Replaces non-RoHs compliant part number 370962-D71.	AF506A
	HP 22.1 kVA S2316 Monitored PDU- dual input, 3U, 16A (INTL) NOTE: Replaces non-RoHs compliant part number 370963-B31.	AF507A
	HP 11 kVA S1316 Monitored PDU- single input, 3U, 16A (INTL) NOTE: Replaces non-RoHs compliant part number 370964-B31.	AF508A
	HP 14.7 kVA S2132 Monitored PDU- dual input, 1U, 32A (INTL) NOTE: Replaces non-RoHs compliant part number 370965-B31.	AF509A
	HP 7.3kVA S1132 Monitored PDU- single input, 1U, 32A (INTL) NOTE: Replaces non-RoHs compliant part number 370966-B31.	AF510A
	HP Monitored Power Distribution Unit: Half Rack Version	
	HP 17.3 kVA S348 Monitored PDU- single input, 3-phase, 60A (NA/JPN)	AF916A
	HP 22 kVA S332 Monitored PDU- single input, 3-phase, 32A (INTL)	AF917A
	HP 4.9kVA S124 Monitored PDU- single input, 1U, 24A (NA/JPN)	AF914A
	HP 7.3kVA S132 Monitored PDU- single input, 1U, 32A (INTL) NOTE: Replaces non-RoHs compliant part number 370966-B31.	AF915A

Options

Modular Power Distribution Units 1U/0U (Up to 32 outlets) NOTE: 1U/0U mounting brackets shipped with the unit (optimized for 10000 and 9000 series racks).	Modular Power Distribution Units (mPDU), High Volt Model, 16A (200-240 VAC) (WW) NOTE: This model has a detachable input power cord and is adaptable to country specific requirements. The 16A PDU also connects to the high volt models of the UPS R3000 XR and R6000 models. Cable P/N 340653-001 required if connecting to UPS R3000 XR (192186-002 NA -High Volt model only).	252663-B24
	Modular Power Distribution Units (mPDU), Low Volt Model, 24A (100-127 VAC) (NA, Japan) NOTE: This model has a detachable input power cord and is adaptable to country specific requirements. The 16A PDU also connects to the high volt models of the UPS R3000 XR and R6000 models. Cable P/N 340653-001 required if connecting to UPS R3000 XR (192186-002 NA -High Volt model only).	252663-D71
	Modular Power Distribution Units (mPDU), High Volt Model, 24A (200-240 VAC) (NA, Japan) NOTE: L6-30 input.	252663-D72
	Modular Power Distribution Units (mPDU), High Volt Model, 32A (200-240 VAC) (Int'l)	252663-B31
	Modular Power Distribution Units (mPDU), High Volt Model, 40A (200-240 VAC) (WW) NOTE: The 40A model has a hardwired input. NOTE: Please see the following Modular Power Distribution Unit (Zero-U/1U Modular PDUs) QuickSpecs for additional options including cables: http://h18000.www1.hp.com/products/quickspecs/11041_div/11041_div.HTML (Worldwide)	252663-B21
	Modular Power Distribution Units (mPDU), High Volt Model, 32A (200-240 VAC) (Int'l)	252663-B31
USB Options	USB 2-Button Optical Scroll Mouse (Carbonite/Silver)	DC172B
	USB 1.44-MB External Diskette Drive (Carbonite)	DC141B
HP Rack 5000 Series (Graphite Metallic)	HP 5642 Rack-Unassembled NOTE: Please see the HP Rack 5642 QuickSpecs for additional part numbers and Technical Specifications such as height, width, depth, weight, and color: http://h18000.www1.hp.com/products/quickspecs/12074_div/12074_div.HTML (Worldwide) NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower.	358254-B21

Options

HP Rack 10000 G2 Series (Carbon/Graphite Metallic)	10642 G2 (42U) Rack Cabinet - Pallet	AF001A
	10642 G2 (42U) Rack Cabinet - Shock Pallet	AF002A
	10642 G2 (42U) Rack Cabinet - Crated	AF003A
	10642 G2 (42U) Rack Cabinet, with Extension - Shock Pallet	AF004A
	10642 G2 (42U) Rack Cabinet, without door - Shock Pallet	AF005A
	10642 G2 (42U) Rack Cabinet - with Extension, without door - Shock Pallet	AF006A
	10636 G2 (36U) Rack Cabinet - Pallet	AF011A
	10636 G2 (36U) Rack Cabinet - Shock Pallet	AF012A
	10636 G2 (36U) Rack Cabinet - Crated	AF013A
	10636 G2 (36U) Rack Cabinet , with Extension - Shock Pallet	AF014A
	10636 G2 (36U) Rack Cabinet, without door - Shock Pallet	AF015A
	10636 G2 (36U) Rack Cabinet, with Extension, without door - Shock Pallet	AF016A
	NOTE: It is mandatory to use a shock pallet when shipping racks with equipment installed.	
	NOTE: Please see the Rack 10000 G2 QuickSpecs for Technical Specifications such as height, width, depth, weight, and color: http://h18000.www1.hp.com/products/quickspecs/12402_div/12402_div.HTML (Worldwide)	
	NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower.	

HP Rack 10000 Series (Graphite Metallic)	HP Rack S10614 (14U) Rack Cabinet – Shock Pallet	292302-B22
	HP Rack 10842 (42U, 800mm wide) – Pallet	257415-B21
	HP Rack 10842 (42U, 800mm wide) – Shock Pallet	257415-B22
	HP Rack 10647 (47U) – Pallet	245160-B21
	HP Rack 10647 (47U) – Crated	245160-B23
	HP Rack 10642 (42U) – Pallet	245161-B21
	HP Rack 10642 (42U) – Shock Pallet	245161-B22
	HP Rack 10642 (42U) – Crated	245161-B23
	HP Rack 10636 (36U) – Pallet	245162-B21
	HP Rack 10636 (36U) – Shock Pallet	245162-B22
	HP Rack 10636 (36U) – Crated	245162-B23
	HP Rack 10622 (22U) – Pallet	245163-B21
	HP Rack 10622 (22U) – Shock Pallet	245163-B22
	HP Rack 10622 (22U) – Crated	245163-B23
	NOTE: xxxxxx-B21 (pallet) used to ship empty racks shipped on a truck. -B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels). xxxxxx-B23 (crated) used for air shipments of empty racks.	
	NOTE: Please see the Rack 10000 QuickSpecs for Technical Specifications such as height, width, depth, weight, and color: http://h18000.www1.hp.com/products/quickspecs/10995_div/10995_div.HTML (Worldwide)	
	NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower.	

Options

Keyboards and Monitors	TFT7210R Rack Mounted 17" Monitor	348373-B21
	NOTE: For a complete list of Monitors please view the following URL: http://www.hp.com/go/kvm.	
	TFT7600 Rackmount Keyboard Monitor US	AG052A
	TFT7600 Rackmount Keyboard Monitor GR	AG053A
	TFT7600 Rackmount Keyboard Monitor FR	AG054A
	TFT7600 Rackmount Keyboard Monitor IT	AG055A
	TFT7600 Rackmount Keyboard Monitor SP	AG056A
	TFT7600 Rackmount Keyboard Monitor DEN	AG057A
	TFT7600 Rackmount Keyboard Monitor NOR	AG058A
	TFT7600 Rackmount Keyboard Monitor SE/FI	AG059A
	TFT7600 Rackmount Keyboard Monitor SWI	AG060A
	TFT7600 Rackmount Keyboard Monitor PORT	AG061A
	TFT7600 Rackmount Keyboard Monitor BEL	AG062A
	TFT7600 Rackmount Keyboard Monitor JPN2	AG063A
	TFT7600 Rackmount Keyboard Monitor RUS	AG064A
	TFT7600 Rackmount Keyboard Monitor INTL	AG065A
	TFT7600 Rackmount Keyboard Monitor UK	AG066A
	1U Rackmount Keyboard with USB, US	AG072A
	1U Rackmount Keyboard with USB, UK	AG073A
	1U Rackmount Keyboard with USB, GR	AG074A
	1U Rackmount Keyboard with USB, FR	AG075A
	1U Rackmount Keyboard with USB, ITL	AG076A
	1U Rackmount Keyboard with USB, SP	AG077A
	1U Rackmount Keyboard with USB, DEN	AG078A
	1U Rackmount Keyboard with USB, NOR	AG079A
	1U Rackmount Keyboard with USB, SE/FI	AG080A
	1U Rackmount Keyboard with USB, SWI	AG081A
	1U Rackmount Keyboard with USB, PORT	AG082A
	1U Rackmount Keyboard with USB, BEL	AG083A
	1U Rackmount Keyboard with USB, JPN2	AG084A
	1U Rackmount Keyboard with USB, RUS	AG085A
	1U Rackmount Keyboard with USB, INTL	AG086A
	NOTE: For additional information regarding Rack Options, please see the following URL: http://www.hp.com/go/rackandpower.	

Options

HP KVM Switch Options	2x1x16 IP Console Switch with Virtual Media	AF601A
	4x1x16 IP Console Switch with Virtual Media	AF602A
	2x16 Server Console Switch with Virtual Media	AF600A
	PS/2 Virtual Media Interface Adapter, 1 pack	AF604A
	NOTE: Requires PS/2 and one USB port on server.	
	Server Console Switch (KVM), 0 x 1 x 8 port	336044-B21
	Server Console Switch (KVM), 0 x 2 x 16 port	336045-B21
	PS/2 Interface Adapter, 1 pack	262588-B21
	PS/2 Interface Adapter, 8 pack	262587-B21
	USB Interface Adapter, 1 pack	336047-B21
	Serial Interface adapter - 1 Pack with power supply	373035-B21
	NOTE: Cat5e cables are required to connect Interface Adapters to Console Switches. Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm.	
	HP 1x 4 USB/PS2 KVM Switch, TT (NA/JPN)	371301-D71
	HP 1x 4 USB/PS2 KVM Switch, TT (AU/NZ)	371301-011
	HP 1x 4 USB/PS2 KVM Switch, TT (UK)	371301-031
	HP 1x 4 USB/PS2 KVM Switch, TT (EU)	371301-A21
	HP 1x 4 USB/PS2 KVM Switch, RM (ALL)	371302-B21
	HP PS2 KVM Cable with audio, 6', 2-pack	371730-B21
	HP USB KVM Cable with audio, 6', 2-pack	371729-B21
	NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm.	

HP Serial Console Server Options	HP 16 Port Serial Console Server (worldwide)	AF101A
	HP 48 Port Serial Console Server (worldwide)	AF102A
	Serial Adapter, RJ45-DB9 DCE Female, 1 Pack	AF103A
	Serial Adapter, RJ45-DB9 DCE Female, 8 Pack	AF110A
	NOTE: Cat5e cables are required to connect Serial Adapters to Serial Console Servers. Additional Serial Adapters and Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm.	
	NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm.	

Options

Service and Support Offerings (HP Care Pack Services)	*Hardware Services On-site Service*	
	4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	U4607E
	4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4608E
	6-Hour Call to Repair, On-site Service 7-Day x 24-Hour Coverage, 3 Years (U.S. Part Number)	
	6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4609E
	Installation & Start-up Services	
	Hardware Installation, Electronic	U4617E
	Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays, Electronic	U4618E
	Installation and Startup for Essentials Rapid Deployment Pack, Electronic	U5683E
	Support Plus	
	Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic	U4619E
	Support Plus 24	
	Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic	U4620E
	Onsite HW support 24x7, 4hr response and RedHat AS O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic	U9239E
	Onsite HW support 24x7, 4hr response and SuSE O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic	U6316E
	NOTE: For more information, customer/resellers can contact: http://www.hp.com/services/carepack	

HP ProLiant DL580 G4 2P Models

Standard Memory

4 GB PC2-3200 Registered Memory (DDR2-400) with Advanced ECC functionality

Standard Memory Plus Optional Memory and Optional Memory Boards

Up to 52 GB of memory is available with the optional installation of PC2-3200 Registered (DDR2-400) Option Kits and the use of all four optional memory boards.

Standard Memory Replaced with Optional Memory and Optional memory board

Up to 64 GB of memory is available with the removal of the standard 4 GB of memory, the optional installation of PC2-3200 Registered (DDR2-400) Option Kits and the use of all four optional memory boards.

NOTE: Memory must be added in banks of two DIMMS. This chart does not represent all possible memory configurations. Additional requirements may apply to enable Advanced Memory Protection features.

Standard Memory		Standard Memory Board (Slots)			
Standard (2P models come standard with 4GB of memory on two memory boards)	4 GB	1	2	3	4
		1 GB	1 GB	Blank	Blank
		Second Memory Board (Slots)			
		1	2	3	4
		1 GB	1 GB	Blank	Blank
		Optional Third Memory Board (Slots)			
		1	2	3	4
		Blank	Blank	Blank	Blank
		Optional Fourth Memory Board (Slots)			
		1	2	3	4
		Blank	Blank	Blank	Blank
Optional Memory Summary		Standard Memory Board (Slots)			
Optional (Standard Memory Plus Optional Memory Boards and Optional Memory)	52 GB	1	2	3	4
		1 GB	1 GB	4 GB	4 GB
		Second Memory Board (Slots)			
		1	2	3	4
		1 GB	1 GB	4 GB	4 GB
		Optional Third Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB
		Optional Fourth Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB

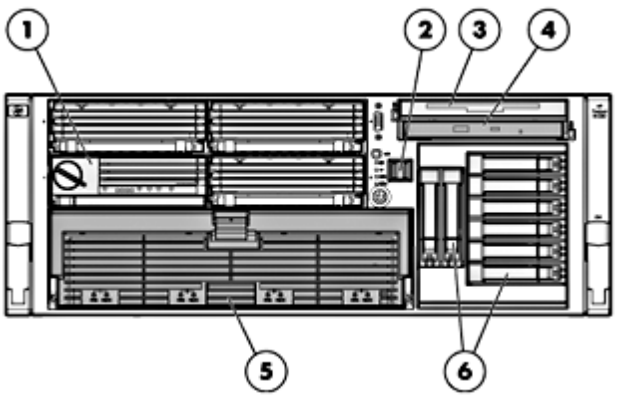
Memory

Maximum Memory Summary		Standard Memory Board (Slots)			
Maximum (Standard Memory Replaced with Optional Memory with Optional Memory board)	64 GB	1	2	3	4
		4 GB	4 GB	4 GB	4 GB
		Second Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB
		Optional Third Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB
		Optional Fourth Memory Board (Slots)			
		1	2	3	4
		4 GB	4 GB	4 GB	4 GB

The following memory options are available from HP:

- 8 GB (2 x 4 GB 2RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 348106-B21
- 4 GB (2 x 2 GB 2RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 375004-B21
  NOTE: With Advanced ECC and online spare memory capabilities. 2GB 2RANK DIMM's are recommended with the HP ProLiant DL580 G4. However, 2GB 1RANK DIMM's are also supported for commonality with other HP ProLiant servers.
- 4 GB (2 x 2 GB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 343057-B21
  NOTE: With Advanced ECC and online spare memory capabilities.
- 2 GB (2 x 1 GB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 343056-B21
  NOTE: With Advanced ECC and online spare memory capabilities.
- 1 GB (2 x 512 MB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 343055-B21
  NOTE: With Advanced ECC and online spare memory capabilities.
- DL580 G4 Memory Expansion Board 410061-B21
  NOTE: The HP ProLiant DL580 G4 utilizes up to four Memory Expansion Boards that support up to four DIMMs each. These memory boards are Front accessible providing unsurpassed levels of memory protection as well as scalability for the most memory-intensive applications. See Memory Configuration Diagram.
  NOTE: One Memory Expansion Board ships standard with 1P base models and two Memory Expansion Boards ship standard with 2P High Performance models.

NOTE: memory is interchangeable between the HP ProLiant DL580 G3 and HP ProLiant DL580 G4, but the memory boards are not.



1	Front-accessible DL580 G4 Memory Expansion Boards, up to four configurable
2	Front-accessible USB 2.0 Ports
3	Slimline 1.44-MB Diskette Drive (ejectable, optional)
4	Slimline DVD/CD-RW Drive (8X/24X) (ejectable, standard)
5	Front-accessible DL580 G4 Processor Board (allows front access to processors and Processor Power Modules)
6	8-Bay SAS/SATA Drive Cage. Supports up to 8 Small Form Factor (SFF) SAS or SATA Hot Plug Drives

Drive Support

	Quantity Supported	Position Supported	Controller
Slimline Drives (ejectable)			
1.44-MB Slimline Diskette Drive	Up to 2	3 or 4	Integrated
IDE slimline CD-ROM Drive	Up to 2	3 or 4	Integrated IDE
Slimline DVD-ROM Drive (8X/24X) Option Kit	Up to 2	3 or 4	Integrated IDE

NOTE: The HP ProLiant DL580 G4 can support a maximum of two Slimline drives (ejectable). Additional configuration settings may be required if running 2 Diskette Drives. When running 1 diskette drive, the top bay is the default location, but can be changed with additional configuration settings.

Hard Drives

SAS SFF Hot Pluggable Drives

	Quantity Supported	Position Supported	Controller
36GB 3G SAS 10K 72GB 3G SAS 10K	Up to 8	6	Smart Array E200 Controller Smart Array P400 Controller Smart Array P600 Controller

SATA SFF Hot Pluggable Drives

	Quantity Supported	Position Supported	Controller
60GB 1.5G SATA 5.4K	Up to 8	6	Smart Array E200 Controller Smart Array P400 Controller Smart Array P600 Controller

Storage

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
Modular Smart Array 30 Family	Up to 28	External	Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 642 Controller
Modular Smart Array 50 Enclosure	Up to 14	External	Smart Array P600 Controller
Modular Smart Array 500 G2	Please see the Modular Smart Array 500 G2 QuickSpecs below to determine configuration requirements	External	Please see the Modular Smart Array 500 G2 QuickSpecs (URL below) for the latest list of supported HBAs
Modular Smart Array 1000	Please see the Modular Smart Array 1000 QuickSpecs below to determine configuration requirements	External	Please see the Modular Smart Array 1000 QuickSpecs (URL below) for the latest list of supported HBAs
Modular Smart Array 1500 cs	Please see the Modular Smart Array 1500 cs QuickSpecs below to determine configuration requirements	External	Please see the Modular Smart Array 1500 cs QuickSpecs (URL below) for the latest list of supported HBAs

Modular Smart Array 500 G2:
http://h18000.www1.hp.com/products/quickspecs/11956_div/11956_div.HTML
Modular Smart Array 1000:
http://h18000.www1.hp.com/products/quickspecs/11033_div/11033_div.HTML
Modular Smart Array 1500 cs: http://www.hp.com/go/MSA1500cs

Maximum Storage Capacity - (External SAS Enclosure Attached)

Internal	576GB (8 x 72GB SFF SAS Drives)
External	10.08TB (14 MSA50 Enclosures x 72GB SFF SAS Drives)
Total	15.94TB

Tape Drives, Tape Autoloaders, & Tape Libraries

Storage

NOTE: For an up-to-date listing of the latest O/S Support details for each of the Tape Drives listed below, please see the following: http://h18000.www1.hp.com/products/quickspecs/Division/10233.html (Worldwide)

NOTE: For an up-to-date listing of the latest O/S Support details for each of the Tape Autoloaders and Tape Libraries listed below, please see the following: http://h18000.www1.hp.com/products/quickspecs/Division/10809.html (Worldwide)

	Quantity Supported	Position Supported	Controller
HP StorageWorks Tape Drives, External USB DAT 24 USB DAT 40 USB DAT 72 USB	Up to 1	External	USB 2.0 port
HP StorageWorks Tape Drives, External DAT 40 DAT 72 Ultrium 232 Ultrium 448 Ultrium 460 DLT VS80 DLT VS160 SDLT 320	1 per SCSI channel	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
HP StorageWorks Tape Drives, External Ultrium 960 SDLT 600	1 per SCSI channel	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
HP StorageWorks Rack-mount Tape Drive Enclosures 1U Rack-Mount Kit 3U Rack-Mount Kit 5U Rack-Mount Kit	1 per SCSI channel	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
HP StorageWorks Autoloaders, External 1/8 Tape Autoloader	1 autoloader per SCSI channel	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
HP StorageWorks Tape Libraries, External MSL2024 (Ultrium 448 and 960-based) MSL4048 (Ultrium 448 and 960-based) MSL6000 (Ultrium 960 and 460-based) MSL6000 (SDLT 600-based)	Please reference the MSL Tape Library QuickSpecs to determine configuration requirements	External	Please consult the EBS connectivity matrix at http://www.hp.com/go/ebs for detailed connectivity information.

Power Specifications

Part Number	348114-001
Operational Input Voltage Range (V rms)	90 to 264
Frequency Range (Nominal) (Hz)	47 to 63 (50/60)

Nominal Input Voltage (Vrms)	100	115	208	220	230	240
Max Rated Output Wattage Rating	910	910	1300	1300	1300	1300
Nominal Input Current (A rms)	11.9	10.2	7.7	7.3	6.9	6.6
Max Rated Input Wattage Rating (Watts)	1163	1148	1566	1566	1548	1548
Max. Rated VA (Volt-Amp)	1186	1172	1598	1598	1579	1579
Efficiency (%)	80	81	83	83	84	84
Power Factor	0.98	0.98	0.98	0.98	0.98	0.98
Leakage Current (mA)	.43	.50	.90	.96	1.00	1.04
Maximum Inrush Current (A peak)	100	100	100	100	100	100
Maximum Inrush Current duration	10	10	10	10	10	10

NOTES:
To review typical system power ratings use the Active Answers Power Calculator which is available via the online tool located at URL: http://h30099.www3.hp.com/configurator/powercalcs.asp.
To drill down to calculators:

- Click on: "ProLiant Servers"
- Click on the Server of interest. Example: DL580 G4
- Click on: "Power Calculator" link. (You may need to scroll down to see it)
- There are certain Dual-core, lowline, max configurations that are not supported. All highline configurations are supported. Consult the Power Calculator to determine if your lowline configuration is supported.

Standard Rack Model Power Cords / Jumper Cords	Description
Asia Pacific	IEC320-C14 to IEC320-C19 Jumper Cord
Europe	IEC320-C14 to IEC320-C19 Jumper Cord
Japan	JIS C8303 to IEC320-C19 IEC320-C14 to IEC320-C19 Jumper Cord
PRC	IEC320-C14 to IEC320-C19 Jumper Cord
USA	Nema 5-15P to IEC320-C19 IEC320-C14 to IEC320-C19 Jumper Cord

Power Specifications

Optional Country Power Cords and Jumper Cords	Description	Option Kit Part Number
Australia/New Zealand	AS/NZS 3112 to IEC320-C19	305340-011
Denmark/Switzerland	IEC320-C19, Industrial	305340-081
Europe	CEE 7 to IEC320-C19	305340-021
Italy	IEC320-C19, Italy	305340-061
South Africa/India	IEC320-C19, SA	305340-AR1
UK	BS1363 to IEC320-C19	305340-031
US	Nema 5-15P to IEC320-C19	235603-001
US	Nema 6-20P to IEC320-C19	235604-001
US	Nema L6-20P to IEC320-C19, 20A, 250V, US	340653-001
WW	IEC320-C19 to IEC320-C14 Jumper (16A, IEC, 6 ft/2.0m)	313227-B21
WW	IEC320-C19 to IEC320-C14 Jumper (16A, IEC, 8 ft/2.5m)	291034-B21
WW	IEC320-C19 to IEC320-C14 Jumper (16A, IEC, 10 ft/3.0m)	310927-B21
WW	IEC320-C19 to IEC320-C14 Jumper (16A, IEC, 12ft/3.7m)	313228-B21
WW	IEC320-C19 to IEC320-C20 Jumper (16A, IEC, 8ft/2.5m)	295633-B22

System Unit Rack	Chassis Footprint (HxWxD)	6.94 x 19 x 26.5 in (17.6 x 48.3 x 67.3 cm)	
	Weight No hard drives installed, one power supply	80 lb (36.3 kg)	
	Input Requirements	Rated Input Voltage	100 to 120 VAC/200 to 240 VAC
		Rated Input Frequency	50 to 60 Hz
		Input Power	1148W @ 115 VAC/1566W @ 220 VAC
		Rated Input Current	12A (100 to 127 VAC), 8.0A (200 to 240 VAC)
	Max BTU Rating	5457 BTU	
	Power Supply Output Power (per power supply)	Rated Steady-State Power	910W/1300W (lowline/highline)
		Maximum Peak Power	910W/1300W (lowline/highline)
	Temperature Range	Operating	50° to 95° F (10° to 35° C)
		Non-operating	-20° to 140° F (-29° to 60° C)
		Shipping	-22° to 122° F (-30° to 50° C)
	Relative Humidity (non-condensing)	Operating	10% to 70%
		Non-operating	5% to 95%
	Maximum Wet Bulb Temperature	101.7° F (38.7° C)	
	Acoustic Noise	NOTE: Listed are the declared A-weighted sound power levels LWAd and the declared average bystander position sound pressure levels LpAm when operating in a 23° C ambient environment. Noise emissions were measured in accordance with ECMA 74 and declared in accordance with ECMA 109.	
		Idle (Fixed Disk Drives Spinning)	
		L WAd (BELS)	7.8
		L pAm (dBA)	60
		NOTE: These values apply to 4U rack configuration. The configuration tested included 4 processors, 4 15,000 rpm hard drives, (also 8 SFF SAS hard drives), 2 power supplies, and 6 system fans.	

24X Max (or higher) IDE CD-ROM Drive Slim Line	Disk	Applicable Disk	CD-DA, CD-ROM (Mode 1 and 2) CD-XA, CD-I (Mode 2, Form 1 and 2) Photo CD (Single and Multi-session) Mixed Mode (Audio and Data combined)
		Capacity	540 MB (Mode 1, 12 cm) 650 MB (Mode 2, 12 cm)
		Diameter	4.7 x 3.15 in (12 x 8 cm)
		Rotational Speed	4200 rpm maximum
		Center Hole	0.6 in (15 mm) diameter
		Thickness	0.05 in (1.2 mm)
		Track Pitch	1.6 μm
	Block Size	Mode 1	2,048
		Mode 2	2,340, 2,336, 1,024 bytes
		CD-DA	2,352 bytes
		CD-XA	2,328 bytes
	Interface	IDE (ATAPI)	
	Access Times (typical)	Random	100 ms
		Full-Stroke	2000 ms
	Audio Output Level	Line-Out	0.7 VRMS at 47 kOhms
		Headphone	0.6 VRMS at 32 kOhms (maximum volume)
	Data Transfer Rate	Sustained	150 KB/s (sustained 1X)
		Burst	2100 to 3600 KB/s
	Cache Buffer	128 KB	
	Start-up Time (typical)	< 7seconds	
	Stop Time	< 4seconds	
	Laser Parameters	Type	Semiconductor Laser GaA1As
		Wave Length	780 ± 25 nm
		Divergence Angle	53.5° ± 1.5°
		Output Power	0.14 mW
	Operating Conditions	Temperature	41° to 113° F (5° to 45° C)
		Humidity	10% to 80%
	Dimensions	(HxWxD, maximum)	1.69 x 5.75 x 8.19 in (4.29 x 15 x 20.8 cm)
		Weight	2.66 lb (1.2 kg)
Slim Line CD-RW/DVD-ROM 24X Combo Drive (Multibay)	Shipping Dimensions	13.88 x 11.38 x 9.25 in (35.26 x 28.91 x 23.50 cm)	
	Shipping Weight	5 lb (2.27 kg)	
	Disk	Applicable Disk	DVD-ROM DVD-R (Read Only) 2.6 GB/side DVD-RAM (Read Only) 5.2 GB/side DVD-RAM (Read Only) CD-ROM Mode-1 data disc CD-ROM Mode-2 data disc CD Audio disc

		CD-Extra		
		CD-RW		
		CD-R		
		CD Text		
		PhotoCD		
		CD-I (mode 2)		
		CD-I Ready		
		CD-Bridge		
	Capacity	DVD-ROM	DVD-SL	4.7 GB/side
			DVD-DL	8.5 GB/side
			Double Sided	9.40 GB/side
		DVD-R		3.95 GB/side
		DVD-RAM		2.6 GB/side and 5.2 GB/
		CD-ROM	Mode-1	650 MB (550 MB)
			Mode-2	742 MB (640 MB)
	Block Size	DVD		2,048 bytes
		CD		2,352 (Mode-0)
				2352, 2340, 2336, 2048 bytes (Mode-1)
				2352, 2340, 2336, 2048 bytes (Mode-2)
	Diameter	120 mm (4.7 in), 80 mm (3.1 in)(with adapter at vertical mounting mode)		
Loading Mechanism	Tray type			
Interface	EIDE (ATAPI)			
Access Times (typical)	Random	DVD-ROM < 120 ms, CD-ROM < 110 ms		
	Full-Stroke	DVD-ROM < 240 ms, CD-ROM < 160 ms		
Audio Output Level (typical)	Line-out	CD 0.7 Vrms at 47 Kohms Load		
Data Transfer Rate (sustained)	DVD-ROM	Single Layer		10.8 MB/sec. Max.
	DVD-RAM	2.77 MB/sec. Max		
	CD-ROM	7.2 MB/sec. Max.		
Cache Buffer	2 MB			
Spin-up Time (typical)	less than 10 seconds			
MTBF	120,000 Power On Hours (POH)			
Ambient Temperature	Operating	-22° to 140° F (-30° to 60° C)		
Relative Humidity	Operating	10% to 80%		
	Storage/Transportation	5% to 95%		
Dimensions	(HxWxD, maximum)	0.5 x 5.04 x 5.1 in (12.7 x 128 x 129.4 mm)		
Option Kit Contents	DVD-ROM drive with installation guide, warranty card, registration card			

Integrated Lights-Out 2 Standard (integrated on system board)	Architecture	32-bit PCI-based health and remote management ASIC (Application Specific Integrated Circuit)
	Processor	32-bit RISC processor core running at 66 MHz
	Upgradability	Option firmware upgradable via flash ROM.
	Video Support	Utilizes the host server's embedded video chip. Supports VGA/SVGA, 640 x 480 (256 to 16.7M colors), 800 x 600 (256 to 16.7M colors), 1024 x 768 (256 to 65K colors), 1280 x 1024 (256 colors)
	Interfaces	One Ethernet network connection (10/100 Mb/s)
	Memory	2-MB Flash ROM
		8-MB SDRAM
	Operating System Support	Microsoft Windows NT 4.0 Server
		Windows NT 4.0 Enterprise Edition
		Windows 2000 Server
		Windows 2000 Advanced Server
		Red Hat 7.x
		SuSE 7.0
		Novell NetWare 5.x, 6.x
	Client Browser Support	Microsoft Internet Explorer 5.5 or later.
	iLO 2 Standard Features	Virtual Text Remote Console
		Virtual KVM
		Virtual Power Button Control
		Virtual UID Control
		Power Regulator Control
		Dedicated LAN Connectivity
		Secure access using web browser
		Secure access using Secure Shell (SSH) client
		Serial connectivity
		Automatic IP Configuration via DHCP/DNS/WINS
		Industry Standard 128-bit Secure Sockets Layer (SSL) Security
		IML and iLO2 Event Logging
		Support for up to 12 user accounts with customizable access privileges
	iLO 2 Advanced Features (optional)	Virtual Graphical Remote Console
		Virtual Floppy/USB Key drive
		Virtual CD-ROM drive
		Directory Services Integration
		Processor States Reporting
		Terminal Services Integration

Smart Array P400 Controller	Disk Drive and Enclosure Interface	3G SAS (Serial Attached SCSI) 1.5G SATA (Serial Advanced Technology Attachment)	
	SAS Connectors	2 internal (SFF8484) x4 wide port connectors	
	Cache Memory Speed	DDR2-533MHz with 40 or 72-bit wide bus provides up to 4.2 GB/s maximum bandwidth.	
	Server Interface	x8 2.5G PCIe provides 2GB/s maximum bandwidth.	
	SAS Speed	x8 3G SAS provides 2.4GB/s maximum bandwidth.	
	Cache Memory	40-bit 256MB cache (72-bit 512MB module upgrades available); ECC protection, battery-backed, and transportable	
	Logical Drives Supported	Up to 32 logical drives	
	Maximum Logical Drive Capacity	2TB	
	Host Memory Addressing	64-bit, supporting greater than 4GB server memory space	
	RAID Support	RAID 6 with ADG (Advanced Data Guarding) requires Battery Backed Write Cache Upgrade RAID 5 (Distributed Data Guarding) RAID 1+0 (Striping & Mirroring) RAID 0 (Striping)	
NC371i Multi-function Gigabit NIC (embedded)	Network Interface	10Base-T/100Base-TX/1000Base-TX	
	Compatibility	IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3u 100Base-TX PCI Express ver 1.0a	
	Data Transfer Method	Four lane (x4) PCI Express	
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s
		10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Half-Duplex)	100 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
		1000Base-TX (Half and Full-Duplex)	2000 Mb/s
	Connector	RJ-45	
	Cable Support	10Base-T	Categories 3, 4, or 5 UTP; up to 328 ft (100 m)
		100Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)
		1000Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)

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For hard drives, 1 GB = 1 billion bytes. Actual formatted capacity is less.